

New Nuclear Plant Deployment Current State of the Industry

Early Site Permits (ESP)

Summary: Three ESPs issued, one utility ESP application is currently under NRC review:

- Exelon – Clinton site, IL – issued on March 15, 2007.
- Entergy – Grand Gulf site, MS – issued on April 5, 2007.
- Dominion Energy – North Anna site, VA – issued on November 27, 2007.
- Southern – Vogtle site, GA – Under NRC review; final EIS decision expected July 2008; Commission decision expected 2009.
- Duke notified NRC of future planned ESP applications (as many as 2) – Possibly Oconee County, SC, and Davie County, NC, no dates identified.
- Unspecified power company announced plans to submit an ESP application in fiscal year 2010.

Combined Construction and Operating License (COL)

Summary: Of four COL applications submitted, two have been docketed for NRC review. 18 power companies intend to submit 21 license applications to the NRC for 32 units.

Combined Construction and Operating License Applications (COLA) Submitted:

- STP Nuclear Operating Co. – South Texas Project (STP), TX (2 units, ABWR) – Submitted September 2007 and docketed for NRC review November 29, 2007.
- TVA (NuStart) – Bellefonte site, AL (2 units, AP1000) – Submitted October 2007 and docketed for NRC review January 18, 2008
- Dominion Energy – North Anna site, VA (1 unit, ESBWR) – Submitted November 28, 2007
- Duke Energy – William Lee site, SC (2 units, AP1000) – Submitted December 13, 2007

Combined Construction and Operating License Applications (COLA) Planned:

- Alternate Energy Holding – Bruneau region, ID (1 unit EPR) – submit COLA 4th Qtr. 2008
- Amarillo Power – Amarillo vicinity (undeclared), TX (2 units, EPR) – submit COLA 4th Qtr. 2008
- AmerenUE – Callaway site, MO (1 unit EPR) – submit COLA in 3rd Qtr. 2008
- DTE Energy – Fermi site, MI (1 unit, technology unspecified) – submit COLA in October 2008
- Entergy – River Bend site, LA (1 unit, ESBWR) – submit COLA in October 2008
- Exelon Generation – Victoria County, TX (2 unit, ESBWR) – submit COLA in November 2008
- Florida Power and Light – Turkey Point site, FL (2 units, AP1000) – COLA in 2009
- Entergy (NuStart) – Grand Gulf site, MS (1 unit, ESBWR) – submit COLA in February 2008
- Luminant (formerly TXU) – Comanche Peak site, TX (2 units, US APWR) – COLA in December 2008
- Mid American – Boise ID, (undeclared, possibly US-APWR) submit COLA in December, 2008
- PPL (UniStar) – Susquehanna site, PA, (1 unit, EPR) submit COLA in late 2008
- Progress Energy – Harris site, NC (2 units, AP1000) – submit COLA in January 2008
- Progress Energy – Levy County, FL (2 units, AP1000) – submit COLA July 2008
- SCE&G – Summer site, SC (2 units, AP1000) – submit COLA in February 2008
- Southern Nuclear – Vogtle site, GA (2 units, AP1000) – submit COLA in March 2008
- UniStar – Calvert Cliffs site, MD (1 unit, EPR) – partial COLA submitted July 2007, remainder expected in March 2008.
- UniStar – Nine Mile Point site, NY (1 unit, EPR) – submit COLA in 4th Qtr. 2008

Licenses to Build Issued By NRC – No license applications have been issued by NRC.

Reactor Design Certification (DC)

Summary: Two designs certified; one design is under NRC review and two have been submitted but have not yet been docketed

- GE ABWR – Certified in 1997.
- Westinghouse AP1000 – Certified 2005. A modification to the certified design was docketed January 18, 2008 and is currently under NRC review.

- GE ESBWR – Under NRC certification review, application docketed December 2005.
- AREVA US EPR – Application submitted December 12, 2007, not yet docketed.
- Mitsubishi Heavy Industries US APWR – Application submitted January 2, 2008, not yet docketed

New Nuclear Plant Orders

Summary: No plant construction contracts initiated; six power companies have ordered large component forgings with three reactor vendors for potential nuclear plants.

Long-Lead Equipment Orders: Large forging orders initiated by AREVA, GE-Hitachi, & Toshiba; but no other long-lead equipment have been ordered to date.

- Dominion, Entergy, and Exelon have contracted with GE-Hitachi for long-lead component forgings.
- AmerenUE and UniStar have contracted with AREVA for long-lead component forgings.
- NRG Energy signed an agreement with Toshiba for long-lead component forgings.
- Japan Steel Works currently only ultra-large forging vendor worldwide – capacity limited; AREVA, Lehigh Heavy Forge, BWXT and the Russian Uralmash-Izhora Group (OMZ) are reportedly developing forging capabilities.

Plant Construction Contracts: No plant contracts have been executed with reactor vendors. Currently, reactor vendors have yet to complete final plant engineering designs (excluding site-specific engineering). As a result, utilities await their completion as it would provide more certainty regarding plant cost.

New Nuclear Plant Construction, Operation & Deferral

Summary: TVA board voted to proceed with the completion of Watts Bar unit 2 in Tennessee at a total cost of \$2.5 billion with an estimated completion date in 2013.

New Nuclear Plants under Construction: Watts Bar unit 2 near Spring City, Tennessee.

New Nuclear Plant Begin Operation: None.

Deferred: None.

Federal Financial Incentives

Summary: EPCRA 2005 incentives are at various stages of development: two rules issued and one notice published.

Standby Support: Rule issued, no industry requests to date, no contracts issued.

- Final Rulemaking Issued – August 2006.
- Published Standard Conditional Agreement – September 2007.
- DOE released on-line instructions for requesting Conditional Agreement- December 2007
- Expect first request from industry for Conditional Agreements – FY 2008.
- Expect first approval by DOE for standby support contracts – Late 2010.

Production Tax Credits: Notice issued.

- Published Internal Revenue Bulletin 2006-18 on May 2006.
- Final Rule on Tax Credit and Guidelines on “Certification Process” – FY 2008.

Energy Facility Loan Guarantee: Final rulemaking issued. Congress provided DOE with authority to issue guarantees for up to \$4 billion in loans (FY07);

- Guidelines issued August 2006 and DOE’s small scale loan guarantee solicitation with \$2 billion ceiling (excludes nuclear power participation) closed – December 2006.
- Final Rulemaking Issued – October 2007.
- No solicitation issued for nuclear power loan guarantee at this time; however, the Department is planning for an early to mid-2008 solicitation targeting nuclear power projects.
- \$18.5 billion in loan guarantees for new nuclear plants approved in FY08 budget December 2007
- First nuclear plant loan guarantee to be issued expected – January 2009.